UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte REIMAR FINCK and
JURGEN HIRSCH

Appeal 2006-2551
Application 09/423,911
Technology Center 1700

Decided: September 27, 2006

Before PAK, WALTZ, and GAUDETTE, *Administrative Patent Judges.*

WALTZ, *Administrative Patent Judge.*

DECISION ON APPEAL

This is a decision on an appeal from the Primary Examiner's final rejection of claims 5 through 8, which are the only claims pending in this application. We have jurisdiction pursuant to 35 U.S.C. § 134.

According to Appellants, the invention is directed to a method and plant for producing hot-rolled aluminum strip for can making, where the strip material has a cubic structure beneficial for the reshaping of the strip

for can making (Br. 2-3).[1] A copy of illustrative independent claims 5 and 7 may be found in the Appendix to Appellants' Brief.

The Examiner has relied upon the following references as evidence of obviousness:

Daly	US 5,362,340	Nov. 08, 1994
Windhaus	US 5,548,882	Aug. 27, 1996
Kamishiro (JP '896)	JP 07-041896	Feb. 10, 1995[2]

Claims 5 and 6 stand rejected under 35 U.S.C. § 103(a) as unpatentable over Daly alone (Answer 5) or in view of JP '896 (Answer 8). Claims 7 and 8 stand rejected under § 103(a) as unpatentable over Daly in view of Windhaus (Answer 10).

We AFFIRM all rejections on appeal essentially for the reasons stated in the Answer, as well as those reasons set forth below.

OPINION

A. The Rejection of Claims 5 and 6

The Examiner finds that Daly discloses a process for producing aluminum strip for can sheet comprising the steps of hot rolling an aluminum strip in a single stand reversible hot mill while minimizing recrystallization, coiling, and annealing in a furnace at 315-399 °C. (Answer 5). The Examiner also finds that the presently claimed "roughing step" is included in the step taught by Daly of converting an ingot to form a sheet (*id.*). The Examiner further compares the claimed steps against the corresponding steps taught by Daly in the Table on page 6 of the Answer.

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[1] We refer to and cite from the "Amended Appeal Brief" dated Oct. 4, 2004.
[2] We rely upon and cite from a machine-assisted English translation of this document, previously made of record.

With regard to the suppression of recrystallization, the Examiner finds that Daly teaches this step using hot roll exit temperatures of 249-405 °C., which range entirely encompasses the claimed range of 260-280 °C. (Answer 6). Additionally, the Examiner finds that Daly teaches selection of a temperature range that would prevent recrystallization completely for the gauges employed, especially in the last hot rolling passes (*id.*). From these findings, the Examiner concludes that it would have been obvious to one of ordinary skill in this art at the time of Appellants' invention to select a portion of the hot rolling exit temperature range taught by Daly for the last few hot rolling passes with the expectation of suppressing or avoiding recrystallization (Answer 6-7).

The Examiner additionally applies JP '896 for its teaching to "warm" roll aluminum alloy sheets at a low temperature of 100-350 °C. to produce an alloy sheet excellent in deep drawability and formability (Answer 9). Therefore the Examiner relies on JP '896 as additional evidence for the obviousness of using low hot rolling exit temperatures (*id.*).

Appellants argue that Daly does not teach or suggest the criticality of maintaining the claimed range of exit temperatures, merely preferring to avoid recrystallization while disclosing that the exit temperature may be above 332 °C. (Br. 4-5; Reply Br. 2).

These arguments are not well taken. Appellants admit that Daly teaches that recrystallization should be minimized or reduced (Br. 5). However, as correctly stated by the Examiner (Answer 6), Daly further teaches that "*all* hot line recrystallization at gauges below 1.90 cm (0.75 inch) or 1.27 cm (0.5 inch) is *avoided*" (col. 3, ll. 41-43, italics added). The Examiner also finds that such gauges are shown in the examples of Daly

(Answer 6). The Examiner also correctly finds that the hot rolling exit temperature taught by Daly entirely encompasses the claimed hot rolling exit temperature range, and such an overlap in ranges has been held prima facie obvious (*id.*). *See In re Peterson,* 315 F.3d 1325, 1329-30, 65 USPQ2d 1379, 1382 (Fed. Cir. 2003); and *In re Geisler,* 116 F.3d 1465, 1469-70, 43 USPQ2d 1362, 1365 (Fed. Cir. 1997)(ranges of prior art that completely encompass the claimed range establish an even stronger case of prima facie obviousness, absent a showing of criticality). Additionally, we note that Daly specifically exemplifies hot roll exit temperatures of 248-290 °C. (col. 4, ll. 21-25), a much narrower range than the general teaching of Daly and very similar (but still encompassing) to the claimed range. Finally, we note that Appellants have not alleged, much less shown, any unexpected results for the claimed hot roll exit temperature range.

Appellants argue that JP '896 fails to teach or suggest what Daly lacks in that JP '896 discloses that the hot roll exit temperature may be above the recrystallization temperature (Br. 5-6; Reply Br. 2).

This argument is also not persuasive. First, we note that Daly alone is sufficient evidence to establish a prima facie case of obviousness for reasons discussed above. Second, Appellants have not argued the pertinent teachings of JP '896, i.e., the low "warm rolling" exit temperatures. Third, even though JP '896 discloses a range of exit temperatures that is broader than the claimed range, Appellants have not shown any criticality for the subsumed temperature range as recited in claim 5 on appeal.

For the foregoing reasons and those stated in the Answer, we determine that the Examiner has established a prima facie case of obviousness in view of the reference evidence. Based on the totality of the

record, including due consideration of Appellants' arguments, we determine that the preponderance of evidence weighs most heavily in favor of obviousness within the meaning of § 103(a). Therefore we AFFIRM the rejections of claims 5 and 6 under § 103(a) over Daly alone or in view of JP '896.

B. The Rejection of Claims 7 and 8

The Examiner finds that Daly teaches an apparatus for hot rolling aluminum comprising all the means recited in claim 7 on appeal except for the heat treating means including a pusher type furnace with a pallet transport system and a means for transferring the coil to the furnace (Answer 10). The Examiner applies Windhaus for the teaching of means for transferring the coiled slab bundles to a pallet car and then using a pusher-type pallet system for transporting the coils through the furnace (*id.*). From these findings the Examiner concludes that it would have been obvious to one of ordinary skill in the art at the time of the invention to use the pusher type pallet system and means for transferring the coiled slab to the pallet bar, as taught by Windhaus, in the strip making plant disclosed by Daly, because Windhaus teaches that this transporting system reduces the risk of deformation of the bundles by the transporting means (*id.*).

Appellants argue that Daly fails to teach or suggest "means for finish rolling the rough strip in a number of hot rolling passes so that [the] last of the hot rolling passes occur without recrystallization in a temperature range of 260°C to a maximum of about 280°C" (Br. 6-7). This argument is not well taken for the reasons stated above. Furthermore, this argument is not persuasive since the "means" disclosed by Daly is the same as claimed and is *capable* of accomplishing the recited process limitation, i.e., the means of

Daly is capable of hot rolling at a temperature of 260-280°C. Whether the "means" taught by Daly actually does have a hot rolling exit temperature of 260-280°C. is irrelevant to claims directed to an apparatus. *See In re Schreiber,* 128 F.3d 1473, 1477-78, 44 USPQ2d 1429, 1431-32 (Fed. Cir. 1997).

Appellants also argue that Windhaus fails to teach what Daly lacks (Br. 7; Reply Br. 2). Therefore Appellants do not dispute the findings from Windhaus made by the Examiner.

For the foregoing reasons and those stated in the Answer, we determine that the Examiner has established a prima facie case of obviousness in view of the reference evidence. Based on the totality of the record, including due consideration of Appellants' arguments, we determine that the preponderance of evidence weighs most heavily in favor of obviousness within the meaning of § 103(a). Therefore we AFFIRM the rejection of claims 7 and 8 under § 103(a) over Daly in view of Windhaus.

C. Summary

The decision of the Examiner is AFFIRMED.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a)(1)(iv)(2004).

AFFIRMED

TAW/tf

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